Bionic cure restores musical life for oboist

By Marti Ebbert Kurth
for *Overture* (reprinted with permission)

At the start of every orchestra concert when the concertmaster cues the principal oboe player to blow the note "A," that unmistakable pitch becomes the standard by which the orchestra tunes. For Glacier Symphony principal oboist Reid Merley, being in perfect control of that note, and the thousands that follow it, has been a skillful combination of his breathing, muscle tone and nervous system for over 46 years – ever since he first began playing the oboe at age 11.

So one day in 2007, when Reid and orchestra mate and fellow oboist Sherry Parmater were rehearsing together she noticed that Merley was having trouble holding his instrument still.

"I was shocked! We were practicing with an accompanist and he was playing an English horn solo. I looked over and his hand was shaking and I thought 'What is that?' The next day we were playing the concert and he was playing a flute and he couldn't keep the flute to his mouth. I had never seen anything like it until that day. His arms were suddenly shaking a lot," she remembers.

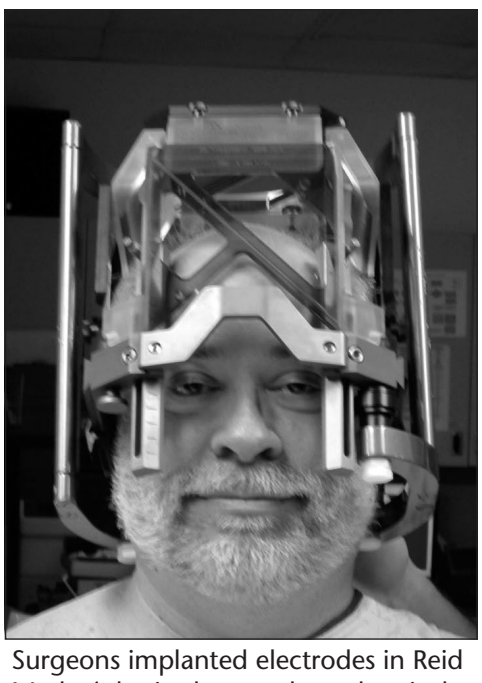
It was on that fateful day that a mysterious tremor began to exhibit itself, appearing only when Merley brought his oboe, or any of the other wind instruments that he frequently is called upon to play, into position and began to blow into them. It came seemingly out of nowhere, with no other symptoms, such as pain or headache to precede it.

Merley says that until that day the tremor had never happened while he was in a concert situation and he was extremely upset at its appearance.

At the time, Parmater and Merley were living together in Wyoming where she was executive director of the Wyoming Symphony. The symphony conductor suggested he see a neurologist, who diagnosed it as an "essential tremor" and prescribed anti-tremor medications to control it. But the medications didn't help much.

About a year later Parmater visited a bookstore around the corner from her symphony office. The bookstore owner knew she was a musician and told her about a new book she had just gotten in called *Musicophilia: Tales of Music and the Brain* by neurologist Dr. Oliver Sacks.

Parmater sat down with the book and had an "aha" moment when she came to the chapter describing musicians who would shake when they were playing. "In about 2006 medical researchers had discovered a condition they call Musician's Focal Dystonia, meaning the tremor happens only when they are in position and playing their instrument. I said 'Oh my God, Reid, this is what's wrong with you!'" she remembers exclaiming.



Surgeons implanted electrodes in Reid Merley's brain that produce electrical stimulus to regulate the tremors that arise when he plays his oboe.

Early on, treatment for the malady was limited to anti-tremor drugs and possibly cutting muscles and nerves to reroute the impulses. But the cure seemed almost worse than the disease and Merley was reluctant to go down that path.

Shortly afterward the couple moved back to Kalispell, and Merley, an Army veteran who had played the oboe, as well as tenor drum and piccolo, with the Sixth U.S. Army Band in the mid 1970s, convinced the local veteran's hospital to help him get treatment at the VA hospital in Helena. He had some relief with anti-tremor drugs, enough that he could continue, with increasing difficulty, to play his oboe again with the Glacier Symphony in 2009.

The reality of his situation hit the wall in summer of 2010 when he was scheduled to solo with the Festival Amadeus orchestra. "I was rehearsing with the quartet for my evening concert and I couldn't keep my oboe still. Reluctantly I had to cancel my performance."

Reid Merley, principal oboist for Glacier Symphony, suffers from a rare disease eventually diagnosed as Musician's Focal Dystonia.

The talented musician, a 1983 graduate of the San Francisco Conservatory of Music who later played eight years with the Master Sinfonia Chamber Orchestra, stopped playing his instrument completely. He thought his music career was over. "I was ready to put it on the back burner."

He kept exploring new avenues of treatment and in 2011 he went to the Veterans Administration Hospital in Portland to a newly opened movement disorder unit. The doctors experimented with several new drugs, including injecting Botox into his arms, none of which stopped the tremors.

Parmater remembers her frustration with the treatment. "He went through a huge amount of trial and error and nothing really helped. I just knew from reading *Musicophilia* that he had Musician's Focal Dystonia, which is centered in the brain, but they kept insisting it was a nerve disorder."

A breakthrough came for Merley when he was referred to Kalispell neurosurgeon Dr. Benny Brandvold. During the exam, the couple told him how the tremors only happened when he tried to play his oboe, and he agreed that his symptoms were caused by a malfunction in his brain and not from prior neck injuries.

"Dr. Brandvold wrote a letter to the VA with his diagnosis and it was then that they started talking about doing deep brain stimulation surgery on me, which is a treatment used for Parkinson's patients," said Merley.

In winter of 2012 Reid went back to the Portland VA to be evaluated for surgery. He met with neurosurgeons Dr. Justin Cetas and Dr. Nathaniel Whitney, both affiliates with Oregon Health and Science University. Both doctors were experienced with deep brain stimulation surgery on Parkinson's patients, a procedure where electrodes are implanted in the brain producing electrical stimulus to regulate abnormal impulses.

A pacemaker-like device is placed under the skin in the upper chest and attached to a wire that travels under the skin connecting to the electrodes in the brain. The regulating device can be turned up or down and is left on continuously.

But neither surgeon had ever performed this procedure before on a person with Musician's Focal Dystonia. It differs in that the brain over-fires in a specific location, similar to a circuit that has worn out from years of repetitive action, such as bowing a violin or holding the mouth precisely to create the perfect note.

In Merley's case the surgeons would need to identify the exact target location where his brain was over-firing, causing his hands and arms to shake when he played his instrument. The only way to find that spot was for him to be awake and playing his instrument as they probed his brain. After consulting with doctors at John's Hopkins University and the Mayo Clinic, leaders in this type of procedure, the surgery was scheduled.

> Following the implant of a neurostimulator: "His playing is so much stronger … At Festival Amadeus this summer he was just better than ever!"
> **– Oboist Sherry Parmater**

Parmater accompanied Merley for the first hours of the pre-surgery where a "cage" was screwed onto his skull so that his brain could be accurately targeted. After they exposed his brain during surgery, they called for Parmater's oboe, a plastic instrument that could be sterilized, handing it to Merley to play in order to reproduce his tremor.

Parmater remembers that after some time a nurse came out, handed her oboe back and said excitedly, "He's doing really well. He played and the tremor came and they found the spot and the tremor went away."

She was soon followed by the technician in charge of the regulator box who came out and said, "I go to these operations every day and I've never seen anything like it! When they hit the right spot and the tremor went away – he just kept playing. We had to tell him to stop!" Parmater recalls, laughing.

However, eight hours into the surgery, the chief neurosurgeon came out and broke the news of a complication. The wire running from Merley's brain to the stimulator box had broken somewhere in his neck. So they had to go back in the next day and redo the surgery over another six hours.

Merley is now truly a bionic musician. Unlike Parkinson's patients with the device, he only turns on the stimulator when he is going to play. He says the sensation is not uncomfortable. "When I turn on the machine I feel it in my body … I stop breathing for a moment and I get an electric buzz on my right side."

Parmater notices that his playing has gotten better and better as he fine tunes the device to achieve the best results. "His playing is so much stronger now than a year ago. At Festival Amadeus this summer he was just better than ever!" It is bionic justice for this elite oboe player who thought he might never play again.

Study looks at health of seniors who sing in choirs

Meredith May writes in the Oct. 28 issue of the *San Francisco Chronicle*:

"It seems true that singing in a choir can be therapeutic, especially for older adults, but a groundbreaking clinical trial is under way in San Francisco to see whether science agrees. Over the next five years, researchers at UCSF will create a dozen senior choirs throughout the city to compare the physical strength, balance, memory and moods of singers versus non-singers.

"Backed by a $1.9 million grant from the National Institutes of Health, the new Community of Voices/Comunidad de Voces choirs will be offered to 400 adults older than 60, who agree to wear Bluetooth-enabled belts that measure their balance, participate in memory tests and coordination tests and answer questionnaires about their mental well-being."

Read the complete story at www.sfgate.com.

– from Grantmakers in the Arts, www.giarts.org